

CLAIMS

1. Method to produce an austenitic alloy, c h a r a c t e r i z e d in that an austenitic substrate alloy of low Al content is coated with at least one layer of an alloy of higher Al content at a temperature between 100 °C and 600 °C, so that the resulting product has an Al content of 4,5–12 % by weight, preferably 5,5–12 % by weight.
2. Method to produce an austenitic alloy according to claim 1, c h a r a c t e r i z e d in that a substrate alloy having the following composition (in % by weight):
- 20–70 % of Ni,
 - 15–27 % of Cr,
 - 0–5 % of Al,
 - 0–4 % of Mo and/or W,
 - 0–2 % of Si,
 - 0–3 % of Mn,
 - 0–2 % of Nb,
 - 0–0,5 % of Y, Zr and/or Hf,
 - 0–0,5 % of Ti,
 - 0–0,1 % of one or more rare earth metals (REM)
 - balance Fe and normally occurring impurities
- is coated with at least one layer of a composition of higher Al content.
3. Method for the manufacture of an austenitic alloy according to any one of claims 1–2, c h a r a c t e r i z e d in that the at least one layer is aluminium.
4. Method for the manufacture of an austenitic alloy according according to any one of claims 1–2, c h a r a c t e r i z e d in that the at least one layer is an aluminium-based alloy.

5. Method for the manufacture of an austenitic alloy according to any one of claim 4, in which the aluminium-based alloy is Al having 0,5 to 25 % by weight of Si.
- 5 6. Method for the manufacture of an austenitic alloy according to any one of claims 1–5, wherein the austenitic final product has the following composition (in % by weight):
- 10 0–0,2 % of C,
0–0,1 % of N,
25–70 % of Ni,
15–25 % of Cr,
4,5–12 % of Al,
0–4 % of Mo and/or W,
0–4 % of Si,
15 0–3 % of Mn,
0–2 % of Nb,
0–0,5 % of Ti,
0–0,5 % of Y, Sc, Zr and/or Hf,
0–0,2 % of one or more rare earth metals (REM) such as, e.g., Ce,
20 La, Sm,
balance Fe and normally occurring impurities.
7. Austenitic alloy with an Al content of 4,5–12 % by weight,
c h a r a c t e r i z e d in that it is manufacturable by the method according to
25 any one of claims 1–6.
8. Use of the method according to any of claims 1-6 for producing material to be
used in high temperature applications such as supporting material in catalytic
30 converters and resistive heating.